



## ARL is an Authority on Nutrition and the Science of Balancing Body Chemistry Through Hair Tissue Mineral Analysis!

Hair Tissue Mineral Analysis


[home](#)
[About](#)
[Hair Analysis](#)
[Lab Profile](#)
[Educational Material](#)
[Mineral Information](#)
[Contact](#)

# Behavior and Nutrition

[Home](#) » [Newsletters](#) » Behavior and Nutrition

## Behavior and Nutrition

The link between nutrition and behavior is profound and dramatic. Hair analysis can help identify and guide the correction of many cognitive, emotional and behavioral imbalances. This newsletter highlights some of the well-researched links between nutrition and behavior.

### Toxic Metals

Extensive medical literature links excessive levels of lead, cadmium, mercury and aluminum with behavioral dysfunctions. All have neurotoxic effects.

Toxic metals are widely dispersed in the environment. They pass easily through the placenta into the unborn child. Children are particularly susceptible because of their greater need for minerals for growth and development. Toxic elements can replace or displace vital minerals such as calcium and zinc.

There is no safe level of the heavy metals such as lead. Toxicity is not detected by routine blood testing and in most cases is not even suspected.

Lead alone is associated with over 20 conditions including memory loss, brain allergies, fatigue, violence, cognitive impairment and mood swings.

Although there has been progress, mercury from amalgam fillings, lead from paints, dyes and industrial waste, cadmium from smoke and water supplies and copper from pipes, foods and metabolic imbalances continue to be threats to both children and adults.

### Trace Mineral Imbalances

Trace minerals catalyze and facilitate thousands of enzyme reactions. Many of these are involved in the central nervous system. Magnesium alone facilitates several hundred enzymes, including those that produce energy within every body cell.

Magnesium deficiency is widespread. This mineral is deficient in most diets, especially those containing refined foods. Magnesium has a calming as well as an energizing effect upon the nervous system.

Zinc deficiency is closely associated with emotional instability, mood swings and anxiety states. A copper imbalance often accompanies a zinc deficiency. Copper excess or bioavailability is associated with detachment or spaciness, mood swings, depression, panic attacks and some cases of schizophrenia.

A manganese imbalance is associated with one form of schizophrenia. Research by Dr. Paul Eck has linked other mineral excesses with specific behavior patterns, such as high iron with anger and hostility.

Hair mineral analysis is an excellent screening tool to assess toxic metals and trace mineral imbalances.

### Vitamins And Amino Acids

Many vitamins and co-factors are essential for the functioning of the nervous system. Perhaps the B vitamins have the most direct and powerful effects upon the nervous system. Dr. Abram Hoffer and others have shown the dramatic effects of niacin and choline on the brain and their role in reversing conditions such as schizophrenia, depression and anxiety states.

Vitamins have many indirect effects as well. Vitamin E assists circulation and protects delicate enzymes. Vitamin C helps chelate toxic metals and lowers copper levels. Vitamin A is a synergist with zinc. Vitamin D assists the absorption and utilization of calcium. In this way, the vitamins play major roles in all health conditions, including those of the nervous system.

Amino acids such as glutamine, taurine, cysteine and others also play important roles in the central nervous system.

### Glucose Intolerance

According to Dr. Robert Atkins, MD and other prominent physicians, over 50% of Americans have some degree of sugar and carbohydrate intolerance.

Low brain glucose levels are associated with severe mental and emotional symptoms. These include confusion, forgetfulness, inability to concentrate, irritability and even violence.

A diet high in refined sugars only worsens the tendency for low blood sugar. However, deficiencies in chromium, manganese, zinc, vanadium and B vitamins also play an important role in producing sugar and carbohydrate intolerance.

### The Oxidation Rate

The rate at which the body metabolizes food is related to the overall metabolic rate. This in turn is regulated by the thyroid and adrenal glands, under the influence of numerous nutrient interactions. Imbalances in the oxidation rate are closely associated with personality and behavior traits, many of which can be modified by balancing the oxidation rate.

A slow rate of oxidation is associated with apathy, fatigue, depression, introversion and despair. Over 80% of Americans have a slower than ideal oxidation rate. An extremely fast oxidation rate is associated with anxiety, paranoia, aggressiveness, extroversion, irritability and nervousness.

Imbalances in the oxidation rate and sugar intolerance can both result in various cravings and a tendency to additions.

### Energy Imbalance

The energy pathway consists of the steps involved in the conversion of food to ATP at the cellular level. The pathway involves digestion, absorption, assimilation, entrance of nutrients into the cells and cellular respiration in the Krebs and glycolysis cycles.

Any block or imbalance in the energy pathway will lower the production of adaptive energy and can produce pathology. The brain is a chemical organ and is affected by even small fluctuations in energy production. Conditions such as depression, allergies, attention deficit and the tendency for addiction can often be traced to a condition of lowered energy.

Hair analysis can help identify and guide the correction of sugar intolerance, an imbalanced oxidation rate and energy loss.

### Recommended reading

This has been a brief introduction to a very large subject. For more information we highly recommend books by Dr. Abram Hoffer, MD. *Mental and Elemental Nutrients*, by Carl Pfeiffer, MD Ph.D., *Diet, Crime and Delinquency*, by Alexander Schauss, Ph.D and *Pure, White and Deadly* by John Yudkin. These are just a few of the excellent books available on the subject of nutrition and behavior.

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